Space Weather Forecast

Issued on Friday, 01 July 2022 at 01:02 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Slight chance of Moderate-class flares.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity has been Low over the past 24 hours, with just one Common-class flare observed from a new sunspot region on the northeast horizon. Three remaining regions appear to be stable and relatively inactive. No Earth-directed CMEs were observed in available imagery.

Solar Wind / Geomagnetic Activity: The solar wind speed has followed a declining trend through the last 24 hours, from 430 to 340km/s. Total magnetic field strength has been weak, with only negligible variations in the important north-south component. Resultant geomagnetic activity has been Quiet.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) remained at background with no solar radiation storms occurring.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is likely to be Low or Very Low, with a very slight chance of Moderate activity.

Solar Wind / Geomagnetic Activity: A slow CME which left the Sun on 26 June may arrive at Earth on 02 July, but is most likely to be engulfed by the ambient solar wind. A further CME may arrive at Earth by the end of 04 July, but with low confidence. Solar winds are expected to remain at slow-ambient levels through the period. Geomagnetic activity is forecast to be mainly Quiet, with isolated Unsettled intervals.

Energetic Particles / Solar Radiation: In the absence of any significant sunspot development, the count rate of energetic particles (high energy protons) is forecast to persist at background levels, with no solar radiation storms occurring.

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	10	10	10	10
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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